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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,853	11/28/2001	Hiroyuki Yokoyama	PF-2899	9765

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EXAMINER

DOAN, JENNIFER

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/994,853

Applicant(s)

YOKOYAMA, HIROYUKI

Examiner

Jennifer Doan

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 15, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6, 11, 14, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kafka et al. (U.S. Patent 5,008,887).

Regarding claims 1, 6, 14 and 20, Kafka et al. disclose (Figs. 1 and 2) an optical system including a cavity comprises a semiconductor light emitting device (12) and an optical fiber (22) having a first terminal optically coupled to the semiconductor light-emitting device (12), the cavity having a cavity length defined between a first facet of the semiconductor light-emitting device and a second terminal of the optical fiber as shown in Fig. 1; and a looped optical fiber (34, 22) having a first terminal optically coupled to the semiconductor light-emitting device (12), the ring cavity having a cavity length defined by a length of the looped optical fiber and an optical path length between the

first and second terminal; further wherein a cavity length is defined between the reflective facet of the semiconductor laser device and the reflective facet of the semiconductor laser device and the reflective terminal of the polarization preserving fiber and the free end of the optical fiber is free to connect to any element as shown in Figs. 1 and 2; wherein a length of the optical fiber (22) is such that a mode-locking oscillation frequency is not more than 1 GHz (abstract, lines 1-3).

Regarding claims 11 and 16, wherein the cavity length is adjustable by an optical path length adjuster (column 3, lines 46-60).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 4, 7, 9, 12, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kafka et al. (as cited above).

Kafka et al. disclose the above limitations of the claimed invention except Kafka et al. do not disclose a single case having a size smaller than the length of the optical fiber as recited in claims 2, 4, 7 and 9. However, the single case having a size smaller than the length of the optical fiber is considered to be obvious, since making a single

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case having a size smaller than the length of the optical fiber is one of many means to accommodate and protect the device. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Kafka's device with a single case having a size smaller than the length of the optical fiber. Doing so would contain and protect the optical device.

Kafka et al. disclose above limitations of the claimed invention except Kafka et al. do not disclose the optical path length adjuster is a set of paired wedge prisms as recited in claim 12 and right-angle isosceles triangle prism as recited in claim 13. However, the wedge prism and triangle prism are considered to be obvious, since using the wedge prism and triangle prism is one of many means to refract or disperse the light beam. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Kafka's device with the optical path length adjuster as a set of paired wedge prisms or right-angle isosceles triangle prism. Doing so would scatter the light beam and obtain a higher efficiency-coupling device.

Kafka et al. disclose above limitations of the claimed invention except Kafka et al. do not disclose a second collimator lens arranged to allow an optical output emitted from the reflective facet to be transmitted through the second collimator lens as recited in claim 19. However, the collimator lens is considered to be obvious, since setting the collimator lens into the device is one of many modifications to focus the light beam. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Kafka's device with the collimator lens. Doing so would focus the light beam and obtain the desirable light signal.

Allowable Subject Matter

6. Claims 3, 5, 8, 10, 15, 17 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to disclose or reasonably suggest a mode locking semiconductor laser system comprising a temperature controller for controlling the temperature as recited in claims 3, 5, 8 and 10 and the condenser lens disposed between the optical path length adjuster and the non-reflective terminal of the polarization preserving optical fiber as recited in claim 15.

Claim 17 and 18 are dependent on the objected claims 15.

Response to Arguments

7. Applicant's arguments, see pages 7-11 of the remarks, filed 02/19/2003, with respect to the rejection(s) of claim(s) 1-10 under Boscha (U.S. Patent 6,418,251) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kafka et al. (U.S. 5,008,887). This action is **NOT** made final.

Conclusion

8. Applicants' arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. This action is **not** made final.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fermann et al. (U.S. Patent 5,414,725), Ventrudo et al. (U.S. Patent 5,485,481), Bowers et al. (U.S. Patent 5,802,084) and Abeles (U.S. Patent 6,192,058) disclose a mode-locking semiconductor laser.

10. Any inquiry concerning the merits of this communication should be directed to Examiner Jennifer Doan whose telephone number is (703) 308-6179. The examiner can normally be reached on Monday to Thursday from 6:30am to 4:00pm, first Friday off.

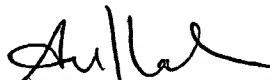
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick, can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JD

JD

May 01, 2003


AKM ENAYET ULLAH
PRIMARY EXAMINER